Abstract:

Background: *Elastomeric chains are used to close space in orthodontics.*
AIM: *An Experimental Study on Elastic Properties of Four Different Brands of Elastomeric Orthodontic Chains*
Materiaals and Methods: *In this study the elastic properties of elastomeric chains from four different companies were investigated. In this experimental study, 6-loop transparent elastomeric chains from four American orthodontics companies, SIA, G&H and Protect were evaluated in two groups. In the first group, the elongation test of each specimen was determined by applying 150 and 300 grams of force. The force dissipation test was also performed to determine 100% of the initial force per stretch in distilled water for 1 hour, 24 hours, 1 week, 2 weeks and 3 weeks after immersion in the distilled water.*
Results: *The results showed that the SIA brand tensile test had less tensile strength of 150 grams and 300 grams than the other three samples. The two brands of G&H and American orthodontics have roughly the same stretch.*
Conclusion: *Power dissipation test showed that the duration of retention in distilled water has a direct effect on power dissipation, and both Protect and G&H brands have more degradation in distilled water than the other two brands, and this value has increased over time to 21 days.*

Keywords: *Elastomeric Chains, Force Decomposition, Tensile Test, Elastomeric Specifications, Orthodontic*